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Illinois Environmental Protection Agency

Fact Sheet

October 1998

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AirTerms

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These are often-used terms found in the AirFacts fact sheet series. Definitions of these terms are useful to understand the concepts and policies presented by both the state and the U.S. Environmental Protection Agencies relative to the Clean Air Act Amendments and related permit programs.

Ambient Air Quality — Concentrations of pollutants in the outdoor air that people breathe.

Best Available Control Technology (BACT) — The emissions rate representing the maximum emissions reductions achievable for a proposed new source or major modification under the Prevention of Significant Deterioration rules for areas that are in attainment of federal air quality standards. BACT is implemented in the permitting process through review of technologies available on the basis of practical use as well as economic tests.

CAAPP — Illinois' Title V Clean Air Act Permit Program. The permit granted through this process is a facility-wide permit that is federally enforceable and that supercedes all prior state operating permits for individual emission sources within a given facility.

Criteria Pollutants — Six pollutants for which there are established federal air quality standards (NAAQS) which define allowable concentrations that are designed to protect human health. These pollutants are: carbon monoxide (CO), lead, nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM) and sulfur dioxide (SO_2).

Increment — An individual maximum allowable increase in ambient air concentrations of a given pollutant. It represents a portion of the total acceptable pollutant load of the outdoor air in a given area according to the Prevention of Significant Deterioration rules for attainment areas. Each major new source that comes into an area consumes part of the increment.

Lowest Achievable Emission Rate (LAER) — The lowest emissions rate achievable for a proposed project without economic considerations. This applies to sources subject to Nonattainment New Source Review.

Maximum Achievable Control Technology (MACT) — means the maximum degree of emissions reductions achievable for **hazardous air pollutants** as determined by U.S. EPA. For new sources, MACT must be at least as stringent as the control achieved in practice by the best controlled similar source. For existing sources, U.S. EPA must set a limit that is at least as stringent as an average of the best performing similar sources in the nation.

Major Source — In **attainment areas**, a source is major if it is one of 28 listed categories of sources and has the potential to emit 100 tons or more per year of any air pollutant regulated by the Clean Air Act, or if it is any other type of source with the potential to emit 250 tons or more per year of a regulated pollutant.

In **nonattainment areas**, the definition of a major source depends upon how poor the air quality is in a particular area. For example, in severe nonattainment areas for ozone, such as metropolitan Chicago, sources with the potential to emit 25 tons or more of VOCs per year are considered major. Under another nonattainment designation, such as moderate, as exists in East St. Louis, the threshold is 100 tons per year.

National Ambient Air Quality Standard (NAAQS) — The numerical levels (concentration of a pollutant in the air), established by U.S. EPA, at which human health and welfare are protected from adverse effects.

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National Emission Standards for Hazardous Air Pollutants (NESHAPs) — The allowable emissions levels from specific air pollution sources for a group of 188 U.S. EPA-identified hazardous air pollutants.

Ozone (O_3) — A respiratory system irritant that affects mucous membranes, other lung tissues and breathing functions. It is a result of reactions of certain chemical compounds (nitrogen oxides and volatile organic compounds) with oxygen in the presence of sunlight.

Particulate Matter — Fine dusts or droplets in the air that may be formed as a result of incomplete combustion, dust and fumes from industrial processes and materials handling, from disturbed road dust that becomes airborne, and from atmospheric reactions of certain gaseous pollutants.

Potential to Emit — A theoretical calculation of the maximum amount of emissions possible from a piece of equipment or activity. Potential emissions are determined as if the equipment or activity were operated 24 hours a day, 365 days per year, using maximum materials and producing maximum emissions.

Source Categories — In order to establish MACT rules for hazardous air pollutants, U.S. EPA identified 174 source categories for different kinds of processes that produce specific hazardous air pollutants.

Threshold Level — In a laboratory or other health study for response to a chemical, this is the effective dose - the dose at which an observable response or health effect can be documented.

Volatile Organic Compounds (VOCs) — A class of chemicals, some of which lead to ozone formation (smog) when they react with another class of chemicals (nitrogen oxides) and oxygen in the presence of sunlight. VOCs are released from many industrial and combustion processes (including vehicle emissions) and from decomposition of waste in landfills.

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Other AirFacts available:

Nonattainment: Falling Short of Air Quality Standards
Criteria Pollutants
Hazardous Air Pollutants
Construction Permits
Clean Air Act Permit Program
Federally-Enforceable State Operating Permits
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the State of Illinois
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